



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/087,651

03/01/2002

Brent Townshend

01-185-A

7884

7590 03/21/2007  
Matthew J. Sampson  
McDonnell Boehnen Hulbert & Berghoff  
32nd Floor  
300 S. Wacker Drive  
Chicago, IL 60606

EXAMINER

OPSASNICK, MICHAEL N

ART UNIT

PAPER NUMBER

2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/087,651

**Applicant(s)**

TOWNSHEND ET AL.

**Examiner**

Michael N. Opsasnick

**Art Unit**

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-24,26,28,29,32-38 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24,26,28-30,32-38,40-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. Claims 1,2,4,5,6,7, 8, 11-18, 24, 26, 28,29, 32, 33, 36,37,42,44 and 45, are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rtischev *et al* in view of Kahn *et al* (6122614) In further view of Baker *et al* (4783803).

As per claims 1, 2, 5, 7, 36,37 and 45, Rtischev *et al*.teach:

a means for hearing at least one person who is repeating items (spoken-language instruction apparatus employing speech recognition with user reading words from a written script from an inherent database, Abstract; user and microphone, or user and telephone, Fig. 1, elements 12 and 16, or elements 12 and 14, respectively); and

means for preparing a transcription of what was heard by the means for hearing (as input speech being transcribed – col. 5 lines 5-27)

means for comparing the items with a transcription of what was heard and thus measuring intelligibility from the comparison (speech recognizer using nonlinear HMM speech models, Fig. 3, element 112; preselected script, element 114; score set, element 120; reading errors, col. 3, lines 43 and 47).

A measurement unit operable to determine an intelligibility score of the speaker by comparing the items and a transcription of what the listener hears when the speaker repeats the

Art Unit: 2626

items (as FSM comparing the resubmitted sentence after determining the previous result wasn't satisfactory (col. 6 lines 54-67)

Rtischev *et al.* also teaches evaluations using data selected from at least speaker responses and items (col. 3, lines 11-17).

As per claim 8, the Areading errors $\cong$  (col. 3, lines 43 and 47) of Rtischev *et al.* inherently include at least word substitutions, for an error in reading a word could cause the ASR to interpret it as a different existing word (e.g. a Japanese reader using Rtischev *et al.* apparatus to learn English might pronounce Aframe $\cong$  as Aflame $\cong$ , which would cause the ASR to recognize the spoken word as the latter).

As per claims 1, 2, 5, 7, 36,37 and 45, Rtischev *et al.* does not explicitly teach a human listener preparing the transcription without prior knowledge of the text that is being spoken, however, Kahn et al (6122614) teaches a human operator transcribing an audio file (col. 8 lines 19-28) and performing a secondary comparison between the audio file and the initial transcription (col. 8 lines 29-35; fig. 2c). Therefore, it would have been obvious to one of ordinary skill in the art of speech transcription to modify the teachings of Rtischev *et al.* with operator based transcription and double-checking because it would advantageously allow for human interpretation of the audio file without tying time resources of the user themselves (Kahn et al, col. 1 lines 17-26).

Art Unit: 2626

The combination of Rtischev et al in view of Kahn now teaches a system wherein the user's input is transcribed (Rtischev et al, as input speech being transcribed – col. 5 lines 5-27), the user's input being compared to a transcription (Rtischev, as FSM comparing the resubmitted sentence after determining the previous result wasn't satisfactory (col. 6 lines 54-67); wherein the one transcription come from a human operator placed between the user and the system (Kahn et al (6122614) teaches a human operator transcribing an audio file (col. 8 lines 19-28; the operator manually inputs the words that the operator "perceives to hear")).

The combination of Rtischev et al in view of Kahn does not explicitly teach the automatic recognition of the operator's interpretation of what is heard (that is, the claim elements require the operator to speak what is heard; whereas the combination of Rtischev et al in view of Kahn requires the operator to type what is heard). Baker et al (4783803), however, teaches a microphonic input for a user to input speech for recognition (Baker et al (4783803), col. 6 lines 20-26), wherein the output is in word text format and is allowed to be edited by the user (Baker et al (4783803), col. 45 line 54 – col. 46 line 4). Therefore, it would have been obvious to one of ordinary skill in the art of speech recognition at the time the invention was made to modify the system combination of Rtischev et al in view of Kahn with automated speech recognition of the operator's interpretation of the user's input because it would advantageously speed up the recording process of the operator's perceived translation (as opposed to typing the translation manually), (Baker et al (4783803), col. 1 lines 13-20).

As per claims 4,6, 8, 11-13, 15-18, 24, 26, 28,29, 32, 33, 42, and 44, the combination of Rtischev et al in view of Kahn et al (6122614) in further view of Baker et al (4783803) teaches

Art Unit: 2626

listening to the speaker (Kahn et al (6122614), via the recorded audio file of the user – col. 8 lines 19-28).

As per claim 14, Rtischev et al in view of Kahn et al (6122614) in further view of Baker et al (4783803) does not explicitly teach selecting listeners based on certain background characteristics. However, it would have been obvious for an artisan at the time of invention to select listeners that have extensive background speaking knowledge of the language being learned because they would be best able to determine the intelligibility of someone trying to speak the language.

2. Claims 9, 10, 19, 20-23, 34, 35, 38, 40-41, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rtischev et al in view of Kahn et al (6122614) in further view of Baker et al (4783803), as applied to claims 1, 2, 5, 7, 8, 36, and 37, above, in view of Charles Lewis *et al* (U.S. Patent 5,059,127, issued October 22, 1991).

As per claims 9, 10, 19, 20-23, 25, 34, 35, 41, and 43, while Rtischev et al in view of Kahn et al (6122614) in further view of Baker et al (4783803) teaches evaluating an error count intelligibility score (Rtischev et al, reading errors, col. 3, lines 43 and 47), they do not evaluate difficulty of the items and ability of a listener, nor doing this using Item Response Theory. However, Lewis *et al.* do (col. 1, line 63 through col. 2, lines 1, 16-26, and 42-43, with Figure 1A).

It would have been obvious for an artisan at the time of invention to do this because Lewis *et al.* teach that IRT Aallows creation of a test in which different individuals receive

Art Unit: 2626

different questions, yet can be scored on a common scale as well as A permits determination in advance of test administration of the level of ability and the accuracy with which ability has been measured (col. 2, lines 31-36).

The rest of the limitations were discussed in connection with the rejection of claims 1, 2, 5, 7, 8, 36, and 37, above.

As per claim 38, Rtischev et al in view of Kahn et al (6122614) in further view of Baker et al (4783803) does not teach a database containing data from previous evaluations. However, Lewis et al. teach retaining data from previous Atestlets and Asequentially administering testlets ... until a pass/fail decision can be made (Abstract), thus suggesting retaining results of previous intelligibility evaluations (testlets) for later continued evaluation. It would have been obvious for an artisan at the time of invention to do this, to avoid having to administer all the testlets in a single sitting.

As per claim 40, Rtischev et al. suggest use of nonlinear artificial neural net models for speech recognition (see reference to Kim et al. under AOther Publications on the front page, top of second column).

Art Unit: 2626

***Response to Arguments***

3. Applicant's arguments filed 12/18/06 are considered moot in view of the new grounds of rejection. Applicant's arguments against the 35 U.S.C.101 rejections presented have overcome the previous 35 U.S.C.101 rejections.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (571)272-7623, who is available Tuesday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richemond Dorvil, can be reached at (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mno



primary examiner

AU2626

03/18/07